

REMARKS

Currently claims 1-2 and 4-6 are pending in the subject application.

Claims 4 and 6 have been amended to be consistent with the independent claims upon which they depend at least ultimately. Claims 4 and 6 are now directed to a gemstone.

The Examiner, in the Official Action, rejected claims 1-2 and 4-6 under 35 USC § 103(a) as being unpatentable over Smith (US 6,187,213) for the reasons set forth therein.

Applicant's invention is directed to a new product not previously existing in the prior art. In particular, independent claim 1 is directed to a gemstone having micro-discrete indicia having a length no greater than about 10 microns and a height no greater than about 2 microns which were formed using near-field optics. Applicant's invention is directed to providing a gemstone where there is provided extremely small indicia which does not affect the quality of the gemstone yet can provide identification of the gemstone. The present invention is not only directed to hard surface diamonds, but to other gemstones which do not have surfaces quite as hard. Thus, it becomes extremely important that there is no perceivable damage to the gemstone. The use of near-field optics to produce the indicia has numerous advantages. First, less energy is required for producing of the indicia thereby minimizing potential damage to the gemstone and also avoiding any change in composition in the gemstone which is important in order to maintain the value of gemstones. The use of near-field optics to produce the extremely small indicia accomplishes this. Additionally, the fact that less energy is used, reduces the possibility of internal damage to the gemstone. Near-field optic focus is substantially less than conventional optics focus thereby the mark produced does not penetrate as deeply into the surface thereby providing less damage to the gemstone while still maintaining the optical properties of the gemstone. Because less energy is used, it is not limited to hard gemstones such as diamonds. Colored gemstones can be easily damaged by higher energy, such as lasers, as used in the Smith et al. reference. In addition, due to the extreme small size of the indicium, the indicium can be placed on very small surfaces such as the side facet illustrated in Figure 2b of the present invention.

The Smith reference cited by the Examiner describes indicium substantially greater than that cited by the present invention. In particular, reference to column 3, lines 12-17 referred to by the Examiner is simply directed to describing the size of flaws in the diamond and not to the indicium. Column 4, lines 60-65 of the Smith et al. reference are directed to indicium substantially greater than the present invention. In particular, as disclosed therein, Smith et al. states "A preferred mark is a character height of about 50 microns, a character line with 2-3 microns and a total width of 200-250 microns." It can be clearly seen that the size of these are substantially greater than the present invention in magnitude. With respect to column 5, lines 1-5, this is not directed to the size of the indicium, but the depth at which the mark is made. With respect to column 10, lines 59, this again is directed to indicia having substantially greater size than the present invention. See column 10, line 55 which describes the alpha-characters having the size of approximately 50 microns high. This is in contrast to the present invention where the height is no greater than 10 microns, thus, a magnitude of 5 times greater than the present invention.

As previously noted, the technique for forming the indicium on the present invention is the technique totally apart from the lasers described in the Smith et al. reference, i.e. the Smith et al. reference is directed to a high energy type laser as opposed to the much substantially lower energy near-field optics of the present invention. Thus, the present invention provides a product different than that of the Smith et al. reference in several respects. First, it requires higher energy and thus provides greater potential damage to the gemstone, particularly if it is not a hard gemstone such as a diamond. Further, the size of the indicium is substantially smaller and there is no teaching or suggestion that the technique in Smith et al. could produce the size indicium taught and claimed by Applicant. Thus, the present invention indeed produces a different product than that of the cited reference.

The Examiner also argues that it would have been obvious to change the size of the prior art image. However, there is no teaching or suggestion in the prior art that the prior art technique could produce the size to which the present invention is directed. The Examiner cites In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955) for the proposition that a change in size in a design consideration within the skill of the art. However, Applicant respectfully

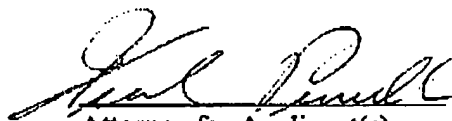
submits the present invention is not directed to mere change in size. In this regard the In re Rose Court stated "We do not feel that this limitation is patentably significant since it at most relates to the size of the article under consideration which is not ordinarily a matter of invention." The Court recites In re Yount, 36 C.C.P.A. 775, 171 F.2d 317, 80 USPQ 141. The Court in In re Yount at page 143 stated "that mere size ordinarily is not a matter of invention. Where appellant by its own specification teaches that small bags are the equivalent of large bags, he is not in a favorable position to argue for any invention in one as distinguished from the other." This situation is totally apart and distinct from the present invention. In the present invention, the indicium produced by near-field optics is in fact not the equivalent of the larger indicium of the cited Smith et al. reference produced by lasers. In the present invention, less energy is used and therefore does not potentially damage the gemstone. Furthermore, the prior art fails to teach or suggest how indicium as small as the present invention can be produced using laser techniques. Since laser techniques use normal optics, it cannot produce the same size indicium to which the near-field optics to which the present invention is directed. There is no teaching or suggestion of combining lasers with near-field optics. Thus, the prior art fails to teach or suggest the producing of a gemstone as taught and claimed by Applicant.

Further, Applicant respectfully submits that the indicium provided on the gemstone is not mere printed matter. It is the gemstone having indicium produced by near-field optics to which the present invention is directed. It is an appropriate process limitation for producing of the product. There is no teaching or suggestion of producing a gemstone having indicium formed by near-field optics as taught and claimed by Applicant.

In view of the foregoing, Applicants respectfully submit that independent claim 1 is patentably distinct over Smith et al. and accordingly claim 1 and its dependent claims in their present form are patentably distinct over the prior art.

In view of the foregoing it is respectfully submitted that the claims in their present form are in condition for allowance and such action is respectfully requested.

Respectfully submitted,



Attorney for Applicant(s)
Registration No. 27,370

Frank Pincelli/phw
Rochester, NY 14650
Telephone: 585-588-2728
Facsimile: 585-477-4646

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.